

Rec'd PCT/PT 08 MAR 2005

INTERNATIONAL SEARCH REPORT

Int onal Application No
PCT/US 03/31465

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01B3/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 760 296 A (JOHNSTON DON R ET AL) 26 July 1988 (1988-07-26) abstract column 7, line 17 - line 28 tables I - III-BB examples claims 1-17	1-16
X	DE 40 37 972 A (ASEA BROWN BOVERI) 27 June 1991 (1991-06-27) examples 1,2 column 1, line 51 -column 2, line 41 column 5, line 39 - line 50 claims 1-8	1-16
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

10 February 2004

Date of mailing of the international search report

17/02/2004

Name and mailing address of the ISA

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Authorized officer

Meiners, C

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national application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 01 48763 A (ALSTOM SCHWEIZ AG; BAUMANN THOMAS (CH); OESTERHELD JOERG (CH); SOPKA J) 5 July 2001 (2001-07-05)</p> <p>abstract</p> <p>page 8, line 20 -page 9, line 4</p> <p>page 9, line 15 - line 20</p> <p>examples 1-5</p>	1-16
X	<p>WO 00 54286 A (KIESSLING GERHARD; OPPERMANN MANFRED (DE); SCHINDLER HEINZ (DE); BOEHM)</p> <p>14 September 2000 (2000-09-14)</p> <p>abstract</p> <p>page 5, line 1 - line 10</p> <p>page 8, line 15 -page 10, line 23</p> <p>table 1</p> <p>examples 1A-5</p> <p>claims 1,3,5,6,8-12</p>	1-16

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Due to the following objections based on Art. 6 PCT, the search has been restricted:

Claims 1, 6, and 10: since it is not clear what is meant by "wherein internal charge is modified", this technical feature has not been considered when carrying out the search.

Claim 4, 6, and 13: Since the feature "wherein particulate size is comparable to polymer chain length so that the particulate and the matrix polymer interact cooperatively" is unclear, the search has been restricted to the remaining features of the concerned claims.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

In International Application No
PCT/US 03/31465

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4760296	A	26-07-1988	CA 1168857 A1 IT 1149817 B KR 8401365 B1 MX 155403 A US 4546041 A ES 8200785 A1 JP 3031738 B JP 57002361 A NL 8004628 A ,B,	12-06-1984 10-12-1986 20-09-1984 29-02-1988 08-10-1985 01-02-1982 08-05-1991 07-01-1982 01-12-1981
DE 4037972	A	27-06-1991	DE 4037972 A1	27-06-1991
WO 0148763	A	05-07-2001	DE 19963378 A1 AU 1980301 A WO 0148763 A2 CN 1437512 T CZ 20022253 A3 EP 1250195 A2 JP 2003520664 T US 2003113539 A1	12-07-2001 09-07-2001 05-07-2001 20-08-2003 12-03-2003 23-10-2002 08-07-2003 19-06-2003
WO 0054286	A	14-09-2000	DE 19909954 A1 AT 252270 T AU 763369 B2 AU 3656800 A BR 0008834 A CA 2362157 A1 CN 1343363 T DE 50004076 D1 WO 0054286 A1 EP 1166283 A1 JP 2002539288 T PL 350766 A1 TR 200102579 T2	28-09-2000 15-11-2003 17-07-2003 28-09-2000 23-04-2002 14-09-2000 03-04-2002 20-11-2003 14-09-2000 02-01-2002 19-11-2002 27-01-2003 21-06-2002